

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Claims 1-20 are pending. Claims 1-20 stand rejected.

Claims 1, 4, 5, 11, 14 – 16, 19, and 20 have been amended. Claims 6 - 10 have been cancelled. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. Applicants submit that the amendments do not add new matter.

Claim Objections

Claim 4 is objected to because of the following informalities: the claim recites “deleting a slow link such the delay...” This is improper English grammar and it appears as through the term-that-should be inserted between the terms “such” and “ the”.

Applicants have amended claim 4 to address this objection.

Rejections Under 35 U.S.C. § 112

The Examiner has rejected claims 1-10 and 15-20 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The Examiner has stated that

Claims 1, 6, and 16 recite in the preambles a method or system for “inverse multiplexing”. This limitation is confusing since there are no steps or structures that perform this function recited in the body of the claim. Claims 15 and 20 recite “...the slow link...” There is lack of antecedent basis for this limitation in the claims. Claims 2-5, 7-10 and 17-20 are also rejected because they depend on rejected claims.

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Applicants have canceled claims 6 – 10 and have amended the remaining claims to particularly point out and distinctly claim the subject matter.

Rejections Under 35 U.S.C. 102(b)

Claims 1, 2, 6, 7, 16 and 17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Nishihara U.S. Patent No 5,764,637 (“Nishihara”). The Examiner stated that

Referring to claims 1, 6 and 16, Nishihara discloses a method comprising receiving data on one or more data links (ATM cells are received over a link (see figure 3 and column 6 lines 27-41)), writing the data in a buffer for each data link (the cells are written into a buffer (see figure 3 and column 6 lines 27-41)) and reading the data from the buffer for each data link faster than the data is written into the buffer (cells are read from the buffer faster than they are written to the buffer (see figure 3 and column 6 lines 27-41)).

(p. 3, Office Action 7/2/04) Nishihara discloses that

If the speed of cell reading is faster than cell writing, the buffer will become vacant after in a certain time period even if so many cells are accumulated in the buffer. Referring to FIG. 5, based on the difference between the upper limit line of the step function which represents the number of reading cells and lower limit line of the step function which represents the number of writing cells, the number of cell accumulated in the buffer can be estimated. In this case, the size of the buffer is assumed to be infinite. In the figure, the numeral 1 in a circle represents the number of writing cells according to the formula 2, and the numeral 2 in a circle represents the number of reading cells according to the formula 3. In FIG. 6, the number of cells in the buffer is shown.

(Nishihara, Col. 6 lines 27-41)

Applicants respectfully submit that claim 1, as amended is not anticipated by Nishihara under 35 U.S.C. 102§(b). Amended claim 1 includes the following limitations:

A method comprising:
receiving data on a plurality of data links, the data on at least two respective links being transmitted with a differential transmission delay, such that the plurality of data links includes a slow link having a first transmission delay and at least one other link having a second transmission delay, the first transmission delay longer than the second transmission delay;
writing the data in a delay compensation buffer for each data link, the delay compensation buffer having an associated delay corresponding to the first transmission delay; and
reading the data from the delay compensation buffer for each data link faster than the data is written into the buffer.

(Amended claim 1) (emphasis added)

Applicants respectfully submit that Nishihara does not disclose the limitation of receiving data transmitted on links having a differential transmission delay. Nor does Nishihara disclose buffering the data in a delay compensation buffer having a delay based upon the transmission delay of one of the data links.

For these reasons applicants respectfully submit that claim 1 is not anticipated by Nishihara. Given that claims 2 - 5 are dependent from claim 1, applicants respectfully submit that claims 2 – 5 are, likewise, not anticipated by Nishihara. Moreover, given that claims 11 and 16 include the limitations of receiving data transmitted on links having a differential transmission delay and buffering the data in a delay compensation buffer having a delay based upon the transmission delay of one of the data links, and given that claims 12 - 15, and 17 - 20, depend from claims 11 and 16, respectively, applicants respectfully submit that claims 11 - 20 are, likewise, not anticipated by Nishihara.

Rejections Under 35 U.S.C. § 103(a)

Claims 3, 8, 11-13 and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nishihara.

The Examiner has rejected claims 3, 8, 11-13 and 18 under 35 U.S.C. § 103 as being unpatentable over Nishihara. The Examiner has stated that

Referring to claims 11 and 12, Nishihara discloses a method comprising receiving data on one or more data links (ATM cells are received over a link (see figure 3 and column 6 lines 27-41)), writing the data in a buffer for each data link (the cells are written into a buffer (see figure 3 and column 6 lines 27-41)) and reading the data from the buffer for each data link faster than the data is written into the buffer (cells are read from the buffer faster than they are written to the buffer (see figure 3 and column 6 lines 27-41)); receiving the data includes receiving an asynchronous transfer mode (ATM) data cell (the data received by the buffer is a stream of ATM cells (see figure 3 and column 6 lines 27-41)). Nishihara does not disclose that the process is performed using a computer readable medium (i.e. software). However, it would have been obvious to one skilled in the art at the time invention to implement the Nishihara system in this manner because the development costs of a software implementation are less than that of a hardware based implementation. Furthermore, software is easier to upgrade than hardware.

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Applicants respectfully submit Nishihara does not render claims 3, 11 – 13, and 18 obvious for the reasons discussed above in reference to the Examiner's rejection under 102. Nishihara does not disclose the limitations of receiving data transmitted on links having a

differential transmission delay and buffering the data in a delay compensation buffer having a delay based upon the transmission delay of one of the data links.

Claims 4, 5, 9, 10, 14, 15, 19 and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nishihara in view of U.S. Patent No. 6,449,658 by Lafe et al. ("Lafe").

The Examiner has rejected claims 4,5, 9, 10, 14, 15, 19 and 20 under 35 U.S.C. § 103 as being unpatentable over Nishihara in view of Lafe. The Examiner has stated that

Referring to claims 4, 5, 9, 10, 14, 15, 19 and 20, Nishihara discloses the system discussed above. Nishihara does not disclose deleting a slow link and then adding a faster link to the system. However, Lafe discloses a networking system wherein a slow connection is replaced by a faster compressed link (see column 5 lines 17-27). It would have been obvious to one skilled in the art at the time of the invention to implement this feature into Nishihara because as Lafe points out in column 3 lines 55 and 56, doing so would allow the system to operate at a faster rate.

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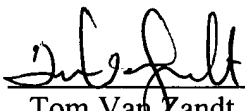
Applicants respectfully submit that claims 4, 5, 14, 15, 19, and 20 are not rendered obvious by the combination of Nishihara and Lafe for the reasons discussed above in reference to the Examiner's rejection under 102. The combination of Nishihara and Lafe does not disclose the limitations of receiving data transmitted on links having a differential transmission delay and buffering the data in a delay compensation buffer having a delay based upon the transmission delay of one of the data links.

It is also respectfully submitted that Nishihara does not teach or suggest a combination with Lafe and that Lafe does not teach or suggest a combination with Nishihara. It would be impermissible hindsight based on applicants' own disclosure to combine the STM/ATM converter of Nishihara with the data transfer acceleration system as disclosed by Lafe.

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. If there are any additional charges, please charge Deposit Account No. 02-2666 for any fee deficiency that may be due.

Respectfully submitted,

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